

**A Rotary Machine (Embodiments), Driving Member for a Rotary Machine,
and an Engine Plant Using the Same**

Abstract of the Disclosure

This invention relates to power engineering, and more exactly, to engine building, and, in particular, to rotary internal combustion engines and pneumatic and hydraulic pump units. The invention helps to simplify the design of the rotary machine, reduce its material consumption rates, improve the manufacturing process thereof, and lower unit costs, all other conditions being equal, by using less complicated and less expensive manufacturing processes. The rotary machine comprises a housing in the form of two intersecting cylinder parts of different diameters having parallel axes; a rotor received in the housing coaxially with the smaller-diameter cylinder and comprising at least two segmental rotor parts provided with annular rotor covers. At least two pairs of annular elements are provided. Pivotal elements are interposed between the annular elements of each pair. A driving member is accommodated movably in the openings of the pivotal elements. The axis of rotation of the driving member is coincident with the axis of the larger-diameter inner cylindrical surface of the housing. The driving member has its working surfaces in contact with the inner working surfaces of the segmental parts of the rotor, the annular rotor covers, and the inner end-face cylindrical surfaces of the housing to define inner variable-volume working chambers between the segmental parts of the rotor and the driving member, and the outer variable-volume working chambers between the driving member, the inner housing surfaces and the outer rotor surfaces. A second embodiment of the rotary machine is disclosed herein. The driving member of the rotary machine is provided with inner chambers, one of which is a combustion working chamber and the other is designed to be filled and purge the working chamber. The engine plant comprises at least one pump and at least one engine constructed as the rotary machines disclosed herein, the outlet of the pumps being connected to the working chambers of the engines directly or via a receiver.